



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R04-OAR-2017-0625; [FRL-9986-36-Region 4]

Air Plan Approval;

Kentucky; Attainment Plan for Jefferson County SO₂ Nonattainment Area

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve the State Implementation Plan (SIP) revision, submitted under a cover letter dated June 23, 2017, by the Commonwealth of Kentucky, through the Kentucky Division for Air Quality (KDAQ) on behalf of the Louisville Metro Air Pollution Control District (District or Jefferson County) to EPA, for attaining the 1-hour sulfur dioxide (SO₂) primary national ambient air quality standard (NAAQS) for the Jefferson County SO₂ nonattainment area (hereafter referred to as the “Jefferson County nonattainment area,” “nonattainment Area” or “Area”). The Jefferson County nonattainment area is comprised of a portion of Jefferson County in Kentucky surrounding the Louisville Gas and Electric Mill Creek Electric Generating Station (hereafter referred to as “Mill Creek” or “LG&E”). This plan (hereafter called a “nonattainment plan” or “SIP” or “attainment SIP”) includes Kentucky’s attainment demonstration and other elements required under the Clean Air Act (CAA or Act). In addition to an attainment demonstration, the plan addresses the requirement for meeting reasonable further progress (RFP) toward attainment of the NAAQS, reasonably available control measures and reasonably available control

technology (RACM/RACT), base-year and projection-year emissions inventories, enforceable emission limits, nonattainment new source review (NNSR) and contingency measures. EPA proposes to conclude that Kentucky has appropriately demonstrated that the nonattainment plan provisions provide for attainment of the 2010 1-hour primary SO₂ NAAQS in the Jefferson County nonattainment area by the applicable attainment date and that the nonattainment plan meets the other applicable requirements under CAA.

DATES: Comments must be received on or before [insert date 30 days after date of publication in the Federal Register].

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R04-OAR-2017-0625 at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from

[Regulations.gov](http://www.regulations.gov). EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

Multimedia submissions (audio, video, etc.) must be accompanied by a written comment.

The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Richard Wong, Air Regulatory Management Section, Air Planning and Implementation Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. Mr. Wong can be reached via telephone at (404) 562-8726 or via electronic mail at wong.richard@epa.gov.

SUPPLEMENTARY INFORMATION:

Table of Contents

- I. Requirement for Kentucky to Submit an SO₂ Attainment Plan for the Jefferson County Area**
 - II. Requirements for SO₂ Attainment Plans**
 - III. Attainment Demonstration and Longer Term Averaging**
 - IV. Review of Attainment Plan Requirements**
 - A. Emission Inventory**
 - B. Attainment Modeling Demonstration**
 - 1. Model Selection**
 - 2. Meteorological Data**
 - 3. Emissions Data**
 - 4. Emission Limits**
 - i. Enforceability**
 - ii. Longer Term Average Limits**
 - 5. Background Concentration**
 - 6. Summary of Modeling Results**
 - C. RACM/RACT**
 - D. New Source Review (NSR)**
 - E. Reasonable Further Progress (RFP)**
 - F. Contingency Measures**
 - V. Incorporation by Reference**
 - VI. EPA's Proposed Action**
 - VII. Statutory and Executive Orders**
- I. Requirements for Kentucky to Submit an SO₂ Plan for the Jefferson County Area.**

On June 22, 2010 (75 FR 35520), EPA promulgated a new 1-hour primary SO₂ NAAQS of 75 parts per billion (ppb), which is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour

average concentrations does not exceed 75 ppb, as determined in accordance with Appendix T of 40 CFR part 50. *See* 40 CFR 50.17(a)-(b). On August 5, 2013 (78 FR 47191), EPA designated a first set of 29 areas of the country as nonattainment for the 2010 SO₂ NAAQS. *See* 40 CFR part 81, subpart C. These designations included the Jefferson County nonattainment area, which encompasses the primary SO₂ emitting source Mill Creek and the nearby Watson Lane SO₂ monitor (Air Quality Site (AQS) ID: 21-11-0051). These area designations were effective October 4, 2013. Section 191 of the CAA directs states to submit SIPs for areas designated as nonattainment for the SO₂ NAAQS to EPA within 18 months of the effective date of the designation, *i.e.*, by no later than April 4, 2015, in this case. Under CAA section 192(a), these SIPs are required to demonstrate that their respective areas will attain the NAAQS as expeditiously as practicable, but no later than 5 years from the effective date of designation, which is October 4, 2018.

For the Jefferson County nonattainment area (and many other areas), EPA published a notice on March 18, 2016 (81 FR 14736), that Kentucky (and other pertinent states) had failed to submit the required SO₂ nonattainment plan by the submittal deadline. This finding initiated a deadline under CAA section 179(a) for the potential imposition of NSR offset and highway funding sanctions. However, pursuant to Kentucky's submittal of June 23, 2017,¹ and EPA's subsequent letter dated October 10, 2017, to Kentucky finding the submittal to be complete and noting the termination of these sanctions deadlines, these sanctions under section 179(a) were not and will not be imposed as a result of Kentucky having missed the April 4, 2015, submittal deadline.

¹ EPA received Kentucky's submittal on July 6, 2017.

Under CAA section 110(c), EPA's March 18, 2016, finding also triggered a requirement that EPA promulgate a federal implementation plan (FIP) within two years of the finding unless, by that time (a) the state has made the necessary complete submittal and (b) EPA has approved the submittal as meeting applicable requirements. EPA's FIP duty will be terminated if EPA issues a final approval of Kentucky's SIP revision.

II. Requirements for SO₂ Nonattainment Area Plans

Nonattainment areas must provide SIPs meeting the applicable requirements of the CAA, and specifically CAA sections 110(a), 172, 191 and 192 for the SO₂ NAAQS. EPA's regulations governing nonattainment SIPs are set forth at 40 CFR part 51, with specific procedural requirements and control strategy requirements residing at subparts F and G, respectively. Soon after Congress enacted the 1990 Amendments to the CAA, EPA issued general guidance on SIPs, in a document entitled the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published at 57 FR 13498 (April 16, 1992) (General Preamble). Among other things, the General Preamble addressed SO₂ SIPs and fundamental principles for SIP control strategies. *Id.*, at 13545-49, 13567-68. On April 23, 2014, EPA issued guidance for meeting the statutory requirements in SO₂ SIPs under the 2010 primary NAAQS, in a document entitled, "Guidance for 1-Hour SO₂ Nonattainment Area SIP Submissions," available at https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf (hereafter referred to as SO₂ nonattainment guidance). In this guidance, EPA described the statutory requirements for SO₂ SIPs for nonattainment areas, which include: an accurate emissions inventory of current emissions for all sources of SO₂ within the nonattainment area; an attainment

demonstration; demonstration of RFP; implementation of RACM (including RACT); NNSR; enforceable emissions limitations and control measures; and adequate contingency measures for the affected area.

For EPA to fully approve a SIP as meeting the requirements of CAA sections 110, 172 and 191-192, and EPA's regulations at 40 CFR part 51, the SIP for the affected area needs to demonstrate to EPA's satisfaction that each of the aforementioned requirements have been met. Under CAA sections 110(l) and 193, EPA may not approve a SIP that would interfere with any applicable requirement concerning NAAQS attainment and RFP, or any other applicable requirement, and no requirement in effect (or required to be adopted by an order, settlement, agreement, or plan in effect before November 15, 1990) in any area which is a nonattainment area for any air pollutant, may be modified in any manner unless it insures equivalent or greater emission reductions of such air pollutant. EPA is proposing to approve Kentucky's June 23, 2017, SO₂ attainment SIP for the Jefferson County nonattainment area because EPA has preliminarily determined that the plan satisfies the aforementioned CAA and regulatory requirements for nonattainment areas. Furthermore, EPA notes that current 2015-2017 quality-assured and certified data for the Watson Lane monitor (AQS ID: AQS ID: 21-11-0051) in the nonattainment area indicates a design value below the 1-hour SO₂ standard.

III. Attainment Demonstration and Longer Term Averaging

CAA sections 172(c)(1) and (6) direct states with areas designated as nonattainment to demonstrate that the submitted plan provides for attainment of the NAAQS. 40 CFR part 51, subpart G further delineates the control strategy requirements that SIPs must meet, and EPA has long required that all SIPs and control strategies reflect

four fundamental principles of quantification, enforceability, replicability, and accountability. General Preamble, at 13567-68. SO₂ attainment plans must consist of two components: (1) emission limits and other control measures that assure implementation of permanent, enforceable and necessary emission controls, and (2) a modeling analysis which meets the requirements of 40 CFR part 51, Appendix W which demonstrates that these emission limits and control measures provide for timely attainment of the primary SO₂ NAAQS as expeditiously as practicable, but by no later than the CAA maximum attainment date for the affected area. In all cases, the emission limits and control measures must be accompanied by appropriate methods and conditions to determine compliance with the respective emission limits and control measures and must be quantifiable (*i.e.*, a specific amount of emission reduction can be ascribed to the measures), fully-enforceable (specifying clear, unambiguous and measurable requirements for which compliance can be practicably determined), replicable (the procedures for determining compliance are sufficiently specific and non-subjective so that two independent entities applying the procedures would obtain the same result), and accountable (source specific limits must be permanent and must reflect the assumptions used in the SIP demonstrations).

EPA's April 2014 SO₂ nonattainment guidance recommends that the emission limits be expressed as short-term average limits (*e.g.*, addressing emissions averaged over one or three hours), but also describes the option to establish emission limits with longer averaging times of up to 30 days so long as the limits meet certain recommended criteria. *See* SO₂ nonattainment guidance, pp. 22 to 39. The guidance recommends that—should states and sources utilize longer averaging times—the longer term average limit should

be a lower-adjusted level that reflects a stringency comparable to the 1-hour average limit at the critical emission value (CEV) shown by modeling to provide for attainment that the plan otherwise would have set.

EPA's SO₂ nonattainment guidance provides an extensive discussion of EPA's rationale for concluding that appropriately set comparably stringent limitations based on averaging times as long as 30 days can be found to provide for attainment of the 2010 SO₂ NAAQS. In evaluating this option, EPA considered the nature of the standard, conducted detailed analyses of the impact concerning the use of 30-day average limits on the prospects for attaining the standard, and carefully reviewed how best to achieve an appropriate balance among the various factors that warrant consideration in judging whether a state's plan provides for attainment. *Id.* at pp. 22 to 39. *See also id.* at Appendices B, C, and D.

As specified in 40 CFR 50.17(b), the 1-hour primary SO₂ NAAQS is met at an ambient air quality monitoring site when the 3-year average of the annual 99th percentile of daily maximum 1-hour average concentrations is less than or equal to 75 ppb. In a year with 365 days of valid monitoring data, the 99th percentile would be the fourth highest daily maximum 1-hour value. The 2010 SO₂ NAAQS, including this form of determining compliance with the standard, was upheld by the U.S. Court of Appeals for the District of Columbia Circuit in Nat'l Env't'l Dev. Ass'n's Clean Air Project v. EPA, 686 F.3d 803 (D.C. Cir. 2012). Because the standard has this form, a single hourly exceedance of the 75-ppb level does not create a violation of the standard. Instead, at issue is whether a source operating in compliance with a properly set longer term average could cause exceedances, and if so the resulting frequency and magnitude of such

exceedances, and in particular, whether EPA can have reasonable confidence that a properly set longer term average limit will provide that the 3-year average of the annual fourth highest daily maximum 1-hour value will be at or below 75 ppb. A synopsis of how EPA judges whether such plans “provide for attainment,” based on modeling of projected allowable emissions and in light of the SO₂ NAAQS form for determining attainment at monitoring sites, follows.

For SO₂ plans that are based on 1-hour emission limits, the standard approach is to conduct modeling using fixed emission rates. The maximum emission rate that would be modeled to result in attainment (*i.e.*, in an “average year”² shows three, not four days with maximum hourly levels exceeding 75 ppb) is labeled the “critical emission value.” The modeling process for identifying this critical emissions value inherently considers the numerous variables that affect ambient concentrations of SO₂, such as meteorological data, background concentrations, and topography. In the standard approach, the state would then provide for attainment by setting a continuously applicable 1-hour emission limit at this critical emission value.

EPA recognizes that some sources have highly variable emissions, for example due to variations in fuel sulfur content and operating rate, that can make it extremely difficult, even with a well-designed control strategy, to ensure in practice that emissions for any given hour do not exceed the critical emission value. EPA also acknowledges the concern that longer term emission limits can allow short periods with emissions above

² An “average year” is used to mean a year with average air quality. While 40 CFR 50 Appendix T provides for averaging three years of 99th percentile daily maximum hourly values (e.g., the fourth highest maximum daily hourly concentration in a year with 365 days with valid data), this discussion and an example below uses a single “average year” to simplify the illustration of relevant principles.

the “critical emission value,” which, if coincident with meteorological conditions conducive to high SO₂ concentrations, could in turn create the possibility of a NAAQS exceedance occurring on a day when an exceedance would not have occurred if emissions were continuously controlled at the level corresponding to the critical emission value. However, for several reasons, EPA believes that the approach recommended in its guidance document suitably addresses this concern. First, from a practical perspective, EPA expects the actual emission profile of a source subject to an appropriately set longer term average limit to be similar to the emission profile of a source subject to an analogous 1-hour average limit. EPA expects this similarity because it has recommended that the longer term average limit be set at a level that is comparably stringent to the otherwise applicable 1-hour limit (reflecting a downward adjustment from the critical emissions value) and that takes the source’s emissions profile into account. As a result, EPA expects either form of emission limit to yield comparable air quality.

Second, from a more theoretical perspective, EPA has compared the likely air quality with a source having maximum allowable emissions under an appropriately set longer term limit, to the likely air quality with the source having maximum allowable emissions under the comparable 1-hour limit. In this comparison, in the 1-hour average limit scenario, the source is presumed at all times to emit at the critical emission level, and in the longer term average limit scenario the source is presumed to occasionally emit more than the critical emission value but on average, and presumably at most times, to emit well below the critical emission value. In an “average year,” compliance with the 1-hour limit is expected to result in three exceedance days (*i.e.*, three days with hourly values above 75 ppb) and a fourth day with a maximum hourly value at 75 ppb. By

comparison, with the source complying with a longer term limit, it is possible that additional exceedances would occur that would not occur in the 1-hour limit scenario (if emissions exceed the critical emission value at times when meteorology is conducive to poor air quality). However, this comparison must also factor in the likelihood that exceedances that would be expected in the 1-hour limit scenario would not occur in the longer term limit scenario. This result arises because the longer term limit requires lower emissions most of the time (because the limit is set well below the critical emission value), so a source complying with an appropriately set longer term limit is likely to have lower emissions at critical times than would be the case if the source were emitting as allowed with a 1-hour limit.

As a hypothetical example to illustrate these points, suppose a source that always emits 1000 pounds of SO₂ per hour, which results in air quality at the level of the NAAQS (*i.e.*, results in a design value of 75 ppb). Suppose further that in an “average year,” these emissions cause the 5-highest maximum daily average 1-hour concentrations to be 100 ppb, 90 ppb, 80 ppb, 75 ppb, and 70 ppb. Then suppose that the source becomes subject to a 30-day average emission limit of 700 pounds per hour (lb/hr). It is theoretically possible for a source meeting this limit to have emissions that occasionally exceed 1000 lb/hr, but with a typical emissions profile, emissions would much more commonly be between 600 and 800 lb/hr. In this simplified example, assume a zero-background concentration, which allows one to assume a linear relationship between emissions and air quality. (A nonzero background concentration would make the mathematics more difficult but would give similar results.) Air quality will depend on what emissions happen on what critical hours, but suppose that emissions at the relevant

times on these 5 days are 800 lb/hr, 1100 lb/hr, 500 lb/hr, 900 lb/hr, and 1200 lb/hr, respectively. (This is a conservative example because the average of these emissions, 900 lb/hr, is well over the 30-day average emission limit.) These emissions would result in daily maximum 1-hour concentrations of 80 ppb, 99 ppb, 40 ppb, 67.5 ppb, and 84 ppb. In this example, the fifth day would have an exceedance that would not otherwise have occurred, but the third day would not have an exceedance that otherwise would have occurred, and the fourth day would have a concentration below, rather than at, 75 ppb. In this example, the fourth highest maximum daily concentration under the 30-day average would be 67.5 ppb.

This simplified example illustrates the findings of a more complicated statistical analysis that EPA conducted using a range of scenarios using actual plant data. As described in Appendix B of EPA's SO₂ nonattainment guidance, EPA found that the requirement for lower average emissions is highly likely to yield better air quality than is required with a comparably stringent 1-hour limit. Based on analyses described in Appendix B of its nonattainment guidance, EPA expects that an emission profile with maximum allowable emissions under an appropriately set comparably stringent 30-day average limit is likely to have the net effect of having a *lower* number of exceedances and better air quality than an emission profile with maximum allowable emissions under a 1-hour emission limit at the critical emission value. This result provides a compelling policy rationale for allowing the use of a longer averaging period, in appropriate circumstances where the facts indicate this result can be expected to occur.

The question then becomes whether this approach—which is likely to produce a lower number of overall exceedances even though it may produce some unexpected

exceedances above the critical emission value—meets the requirements in sections 110(a)(1) and 172(c)(1) and (6) for SIPs to contain enforceable emissions limitations and other control measures to “provide for attainment” of the NAAQS. For SO₂, as for other pollutants, it is generally impossible to design a nonattainment plan in the present that will guarantee that attainment will occur in the future. A variety of factors can cause a well-designed attainment plan to fail and unexpectedly not result in attainment, for example if meteorology occurs that is more conducive to poor air quality than was anticipated in the plan. Therefore, in determining whether a plan meets the requirement to provide for attainment, EPA’s task is commonly to judge not whether the plan provides absolute certainty that attainment will in fact occur, but rather whether the plan provides an adequate level of confidence of prospective NAAQS attainment. From this perspective, in evaluating use of a 30-day average limit, EPA must weigh the likely net effect on air quality. Such an evaluation must consider the risk that occasions with meteorology conducive to high concentrations will have elevated emissions leading to exceedances that would not otherwise have occurred, and must also weigh the likelihood that the requirement for lower emissions on average will result in days not having exceedances that would have been expected with emissions at the critical emissions value. Additional policy considerations, such as in this case the desirability of accommodating real world emissions variability without significant risk of violations, are also appropriate factors for EPA to weigh in judging whether a plan provides a reasonable degree of confidence that the plan will lead to attainment. Based on these considerations, especially given the high likelihood that a continuously enforceable limit averaged over as long as 30 days, determined in accordance with EPA’s nonattainment

guidance, will result in attainment, EPA believes as a general matter that such limits, if appropriately determined, can reasonably be considered to provide for attainment of the 2010 SO₂ NAAQS.

The SO₂ nonattainment guidance offers specific recommendations for determining an appropriate longer term average limit. The recommended method starts with determination of the 1-hour emission limit that would provide for attainment (*i.e.*, the critical emission value), and applies an adjustment factor to determine the (lower) level of the longer term average emission limit that would be estimated to have a degree of stringency comparable to the otherwise necessary 1-hour emission limit. This method uses a database of continuous emission data reflecting the type of control that the source will be using to comply with the SIP emission limits, which (if compliance requires new controls) may require use of an emission database from another source. The recommended method involves using these data to compute a complete set of emission averages, computed according to the averaging time and averaging procedures of the prospective emission limitation. In this recommended method, the ratio of the 99th percentile among these long-term averages to the 99th percentile of the 1-hour values represents an adjustment factor that may be multiplied by the candidate 1-hour emission limit to determine a longer term average emission limit that may be considered comparably stringent.³ The guidance also addresses a variety of related topics, such as the potential utility of setting supplemental emission limits, such as mass-based limits, to reduce the likelihood and/or magnitude of elevated emission levels that might occur under the longer term emission rate limit.

³ For example, if the critical emission value is 1000 pounds of SO₂ per hour, and a suitable adjustment factor is determined to be 70 percent, the recommended longer term average limit would be 700 lb/hr.

Preferred air quality models for use in regulatory applications are described in Appendix A of EPA's *Guideline on Air Quality Models* (40 CFR part 51, Appendix W), also referred to as *Guideline*. In 2005, EPA promulgated AERMOD as the Agency's preferred near-field dispersion modeling for a wide range of regulatory applications addressing stationary sources (for example in estimating SO₂ concentrations) in all types of terrain based on extensive developmental and performance evaluation. Supplemental guidance on modeling for purposes of demonstrating attainment of the SO₂ NAAQS is provided in Appendix A to the SO₂ nonattainment guidance document referenced above. Appendix A provides extensive guidance on the modeling domain, the source inputs, assorted types of meteorological data, and background concentrations. Consistency with the recommendations in this guidance is generally necessary for the attainment demonstration to offer adequately reliable assurance that the plan provides for attainment.

As stated previously, attainment demonstrations for the 2010 1-hour primary SO₂ NAAQS must demonstrate future attainment and maintenance of the NAAQS in the entire area designated as nonattainment (*i.e.*, not just at the violating monitor) by using air quality dispersion modeling (*see* Appendix W to 40 CFR part 51) to show that the mix of sources and enforceable control measures and emission rates in an identified area will not lead to a violation of the SO₂ NAAQS. For a short-term (*i.e.*, 1-hour) standard, EPA believes that dispersion modeling of stationary sources as applied consistent with EPA's *Guideline* is technically appropriate, efficient and effective in demonstrating attainment in nonattainment areas because it appropriately takes into consideration combinations of meteorological and emission source operating conditions that may contribute to peak ground-level concentrations of SO₂. The SIP modeling should follow requirements in the

Guideline for conducting a cumulative impact assessment and, thus, should use EPA's preferred dispersion model, the AERMOD modeling system (or approved alternative model) and follow Section 8 of the Guideline in terms of characterizing contributions to total concentrations.

IV. Review of Attainment Plan Requirements

A. Emissions Inventory

The emissions inventory and source emission rate data for an area serve as the foundation for air quality modeling and other analyses that enable states to: 1) estimate the degree to which different sources within a nonattainment area contribute to violations within the affected area; and 2) assess the expected improvement in air quality within the nonattainment area due to the adoption and implementation of control measures. As noted above, the state must develop and submit to EPA a comprehensive, accurate and current inventory of actual emissions from all sources of SO₂ emissions in each nonattainment area, as well as any sources located outside the nonattainment area which may affect attainment in the area. *See* CAA section 172(c)(3) and (4) and EPA's SO₂ nonattainment guidance.

The base year inventory establishes a baseline that is used to evaluate emission reductions achieved by the control strategy and to assess reasonable further progress requirements. Kentucky used 2011 as the base year for emission inventory preparation. At the time of preparation of the attainment SIP, 2011 reflected the most recent triennial National Emission Inventory (NEI v2),⁴ Version 2 supported the requirement for

⁴ 2011 NEI Data - <https://www.epa.gov/air-emissions-inventories/2011-national-emissions-inventory-nei-data> (accessed January 31, 2017).

timeliness of data, and was also representative of a year with violations of the primary SO₂ NAAQS (*i.e.*, one of the 3-years for which EPA designated the area nonattainment).

For the base-year inventory, Kentucky reviewed and compiled county-level actual SO₂ emissions for all source categories (*i.e.*, point, mobile (on-road and non-road), area (non-point) and event (wildfires and prescribed burns)) in Jefferson County and then utilized county and partial county (the portion in the nonattainment area) population and land use data to determine estimated SO₂ emission inventories for sources of SO₂ in the partial county nonattainment area. The emissions inventory provided in the June 23, 2017, submission reflects the most current emissions profile for all source categories. Additionally, EPA has provided supplemental emissions information to accurately account for point source emissions for the County. In Jefferson County, point sources account for approximately 99 percent of the total county-level SO₂ emissions. Kentucky provided an SO₂ emission inventory for those point sources in the County that emitted over 10 tons per year (tpy) based on the 2011 NEI. Table 1 below shows county-level SO₂ emissions that emitted greater than 10 tpy in 2011.

Table 1 – Jefferson County 2011 Base Year Point Source SO₂ emission inventory (tpy)

| Plant/Facility Site Name | SO₂ Emissions (tpy) |
|---|---------------------------------------|
| Louisville Gas & Electric – Mill Creek | 29,944.72 |
| Louisville Gas & Electric – Cane Run | 7,823.72 |
| Louisville Medical Center Steam Plant | 475.90 |
| Brown-Forman/Early Times | 257.81 |
| Cemex (Kosmos) Cement Company Inc | 187.47 |
| American Synthetic Rubber Company | 136.87 |
| Louisville International Airport | 136.19 |
| Rohm and Haas Company | 28.44 |
| Total emissions for sources greater than 10 tpy | 38,991.12 ⁵ |
| Other SO ₂ sources | 19.24 |
| Total | 39,010.37 |

⁵ The 39,010.37 total SO₂ point source emissions in Table 1 above is the supplemented comprehensive county-level base year SO₂ point source emission inventory. EPA notes that the Table 1 total county-level 2011 SO₂ point source emissions of 39,010.37 tons differs from the 38,854.87 tons sum of point source SO₂ emissions listed in Table 3 of Kentucky's 2017 attainment SIP. Table 1 above accounts for EPA's review of the 2011 NEI v2 for all SO₂ point sources in Jefferson County. The Commonwealth's Table 3 lists all point sources in the county that emitted over 10 tpy of SO₂ which the Commonwealth acquired from EPA's 2011 NEI v2 on January 31, 2017. However, the Commonwealth's Table 3 inadvertently omits the Louisville International Airport point source listed in Table 1 above. Additionally, EPA notes Table 1 above compiles all county-level SO₂ emissions from point sources according to the 2011 NEI v2 including those point sources that emitted less than 10 tpy while Kentucky's Table 3 accounts for those point sources that emitted greater than 10 tpy as indicated in the 2011 NEI v2. Lastly, EPA also notes the point source emissions entry in Kentucky's attainment SIP Table 2 is different from the sum of point source emissions in Kentucky's Table 3 and EPA's Table 1 total above. Therefore, the 39,010.37 tons of SO₂ for point sources total in Table 1 above accounts for the comprehensive compilation of county-level point sources as indicated in the 2011 NEI v2.

The primary SO₂-emitting point source located within the partial county nonattainment area is LG&E's Mill Creek Generating Station (Mill Creek). Mill Creek consists of four coal-fired boilers (U1-U4). A breakdown of the actual 2011 emissions by unit in tpy are as follows: Unit 1- 5,211 tpy; Unit 2- 6,802 tpy; Unit 3- 7,175 tpy and Unit 4- 10,756 tpy. LG&E replaced the existing wet Flue Gas Desulfurization (FGD) control equipment with more efficient FGD controls, to comply with the mercury air toxics standard (MATS). These replacements have been operational for all four units as of June 8, 2016. Mill Creek is the only SO₂ point source located in the partial nonattainment area that is listed in Table 1. Refer to sections IV.B.4 and IV.C for more information on Mill Creek and the 1-hour SO₂ control strategy.

Prior to 2016, LG&E Cane Run Generating Station (Cane Run) was the next largest SO₂ source located in the northern portion of the County and outside the nonattainment area. The facility had three boilers and reported SO₂ emissions of 7,823 tons in 2011. In 2015, LG&E constructed a new natural gas combined cycle turbine (U15) at the Cane Run facility and shut-down coal-fired units U4 thru U8 and U10.⁶

The CEMEX Kosmos Louisville Cement Plant (Kosmos) is outside the boundary of, but adjacent to, the Jefferson County nonattainment area. The facility produces Portland and masonry cement and has a production design capacity of 1.6 million short tons of cement per year. The primary source of the SO₂ emissions are from kiln operations, which emitted 187 tons in 2011.

⁶ KDAQ submitted information regarding the shut-down of the coal-fired units U4 thru U8 and U10 and the new natural gas combined cycle (U15) and auxiliary unit (U16) to EPA on June 20, 2016, to satisfy part of its obligations under the SO₂ Data Requirements Rule at 40 CFR 51.1203(b). The Title V operating permit 175-00-TV(R2) established a natural gas fuel restriction for EGUs U15 and U16 is included in the docket for this proposal (ID: EPA-R04-OA R-2017-0625).

Mill Creek is the only point source in the nonattainment area and the primary source of the violation at the Watson Lane monitor at the time of designations for the nonattainment area listed in Table 1. Therefore, Mill Creek was the only SO₂ source the Commonwealth and the District considered for further evaluation determined to impact the nonattainment area. Cane Run, Kosmos and the remaining county-level point sources in Table 1 are all located outside of the nonattainment area and were accounted for in the attainment modeling through the background monitor (see section IV.B.4 below).

KDAQ used the 2011 NEIv2 to obtain estimates of the area and nonroad sources. For on-road mobile source emissions, KDAQ utilized EPA's Motor Vehicle Emissions Simulator (MOVES2014) and NONROAD. A more detailed discussion of the emissions inventory development for the Jefferson County Area can be found in the June 23, 2017, submittal. Table 2 below provides Kentucky's 2011 base year county-level SO₂ emission inventory for Jefferson County.

Table 2. 2011 Base Year Emissions Inventory for Jefferson County (tpy)

| Year | Point | On-road | Nonroad | Area | Event | Total |
|------|------------------------|---------|---------|-------|-------|-----------|
| 2011 | 39,010.37 ⁷ | 64.20 | 158.75 | 38.28 | 2.61 | 39,274.21 |

Based on an evaluation of county and partial county (nonattainment area) census and land use data, Kentucky determined that the nonattainment area accounted for 0.42 percent of the total county land use⁸ or a total of 1.1 tpy when applied to the county-level

⁷ EPA notes that the total county-level 2011 SO₂ point source emissions of 39,010.37 tons differ from the 38,966.95 tons sum of point source SO₂ emissions listed in Table 2 of Kentucky's 2017 attainment SIP. Table 2 above accounts for EPA's review of the 2011 NEI v2 for all SO₂ point sources in Jefferson County.

⁸ Based on the 2010 census data, the population in Jefferson County was 741,096 in a land area of approximately 380.42 square miles. At the census tract level for the county including the nonattainment area, roughly 8.25 square miles, the population was estimated to 7,170 or approximately 1 percent of the

source categories in Table 2, excluding the point source category (see Table 1 above). As noted above, Mill Creek is the only point source in the nonattainment area. Table 3 below shows the level of SO₂ emissions, expressed in tpy, in the partial Jefferson County nonattainment area for the 2011 base year by emissions source category.

Table 3. 2011 Base Year Emission inventory for the Jefferson County Partial Nonattainment Area emissions (tpy)⁹

| Base Year | Point | On-road | Nonroad | Area | Event | Total |
|-----------|-------------------------|---------|---------|------|-------|-----------|
| 2011 | 29,944.72 ¹⁰ | 0.27 | 0.67 | 0.16 | 0.01 | 29,945.83 |

The attainment demonstration also provides for a projected 2018 attainment year inventory that includes estimated emissions for all emission sources of SO₂ which are determined to impact the nonattainment area for the year in which the Area is expected to attain the standard. This inventory should also address any future growth in the Area or any potential increases in emissions of the pollutant for which the Jefferson County Area is nonattainment due to the construction and operation of new major sources, major modifications to existing sources, or increased minor source activity. KDAQ stated in its June 23, 2017, submittal that because the Area is rural and relatively small, it is unlikely that there will be any significant growth in the nonattainment area. However, the Commonwealth cites to the District's Regulation 2.04, *Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas*, which requires NNSR, approved into the SIP and last updated on October 23, 2001 (see 66 FR 53660). The

total county population. The nonattainment area occupies only 1.61 square miles of the census tracts or approximately 0.42 percent of the total land area.

⁹ Table 2 of Kentucky's 2017 attainment SIP lists the county-level emissions. EPA applied the 0.42 percent to the county-level on-road, nonroad and area source categories in Table 2 to derive the emissions for the nonattainment area.

¹⁰ Mill Creek

District's SIP-approved NNSR program requires lowest achievable emissions rate, offsets, and public participation requirements for major stationary sources and major modification and therefore, would account for potential growth in the nonattainment area. Kentucky reviewed and compiled county-level actual SO₂ emissions for all source categories (*i.e.*, point, mobile (on-road and non-road), area (non-point) and event) in Jefferson County and then utilized county and partial county nonattainment area population and land use data to determine estimated SO₂ emission inventories for sources of SO₂ in the nonattainment area. The Commonwealth developed a projected emissions inventory for county-level SO₂ emissions source categories based on the 2011 NEI as well as the 2008 NEI inventory to extrapolate emissions to 2018. The point source emissions were estimated by taking credit at Mill Creek for the new wet FGD controls and title V operating permit limits of 0.20 lb/MMBtu per unit based on a rolling 30-day average.¹¹ Point sources in the County are still expected to account for approximately 99 percent of the total county-level SO₂ emissions.¹² Emission estimates for on-road sources were re-estimated with MOVES2014; nonroad emissions were projected using national growth factors, and area source emissions were scaled based on emission factors developed using the Annual Energy Outlook 2014 for consumption and production

¹¹ Title V operating permit 145-97-TV(R3) issued by Jefferson County is in the Docket (ID: EPA-R04-OAR-2017-0625) for this proposal action.

¹² Kentucky developed an adjusted 2018 projected attainment year inventory to account for SO₂ emission reductions from additional point sources in the County including LG&E Mill Creek and Cane Run. The attainment SIP submission indicates the SO₂ emissions reductions from sources outside of the nonattainment area are not required to demonstrate attainment but acknowledges decreases in other source SO₂ point source emissions with the replacement from coal-fired units to other fuel at LG&E Cane Run, University of Louisville (99 percent decrease), and Duke Energy's Gallagher Electric Generating Station (92 percent decrease) in Floyd County, Indiana.

forecasts. Table 4 below provides Kentucky's 2018 projected county-level SO₂ emission inventory for Jefferson County.

Table 4. 2018 Projected Attainment Year SO₂ Emissions Inventory for Jefferson County

| Year | Point | On-road | Nonroad | Area | Event | Total |
|-------------|--------------|----------------|----------------|-------------|--------------|--------------|
| 2018 | 18,391.77 | 38.04 | 158.75 | 55.62 | 5.99 | 18,650.17 |

Based on county and partial county nonattainment area census and land use data, similar to the base-year nonattainment area inventory, Kentucky applied the 0.42 percent nonattainment area land use ratio to the 2018 county-level projected emissions inventory in Table 4 resulting in total of 1.06 tpy for on-road, non-road and area sources, excluding point source category.¹³ Table 5 below shows the level of emissions, expressed in tpy, in the Jefferson County nonattainment area for the 2018 projected attainment year inventory.

KDAQ provided a future year projected emissions inventory for all known sources included in the 2011 base year inventory, discussed above. The projected emissions are consistent with expected levels beyond October 4, 2018, when the control strategy for the attainment demonstration will be fully implemented. Therefore, as an annual future year inventory, the point source portion is reasonably estimated beyond October 4, 2018, and would represent an annual inventory for 2019 or beyond. The projected emissions in Table 2 are estimated actual emissions, representing a 55 percent reduction from the base year SO₂ emissions.

¹³ Mill Creek is the only point source in the nonattainment Area.

Table 5. 2018 Projected Attainment Year Emissions Inventory for Jefferson County Partial Nonattainment Area (tpy)¹⁴

| Year | Point | On-road | Nonroad | Area | Event | Total |
|-------------|--------------|----------------|----------------|-------------|--------------|--------------|
| 2018 | 13,490 | 0.16 | 0.67 | 0.23 | 0.03 | 13,491.09 |

EPA has evaluated Kentucky's 2011 base year and projected emissions inventory for the Jefferson County nonattainment area and has made the preliminary determination that these inventories were developed consistent with EPA's April 2014 SO₂ nonattainment guidance. Although EPA has noted minor discrepancies between Kentucky's inventory provided in the nonattainment SIP and the 2011 NEI, EPA is proposing to find that Kentucky's inventory is sufficiently comprehensive and accurate to serve the planning purposes for which the inventory is required. Therefore, EPA is proposing to determine the Jefferson County SO₂ attainment SIP meets the requirements of CAA section 172(c)(3) and (4) for the Jefferson County nonattainment area.

B. Attainment Modeling Demonstration

The following discussion is an evaluation of various features of the modeling that Kentucky used in its attainment demonstration.

1. Model Selection

Kentucky's attainment demonstration used AERMOD, the EPA's preferred model for this application. The Commonwealth used AERMOD version 15181 with regulatory default options and a rural land use designation. Version 15181 of the AERMOD modeling system was the current regulatory version at the time Kentucky was preparing the attainment demonstration. Appendix 3 in Kentucky's June 23, 2017, submittal,

¹⁴ Table 5 of Kentucky's 2017 attainment SIP lists the county-level projected emissions. EPA applied the 0.42 percent to the county-level on-road, nonroad and area source categories in Table 5 to derive the emissions for the partial county nonattainment area.

provides a summary of the modeling procedures and options, including details explaining how they applied the Auer technique to determine that the rural dispersion coefficients were appropriate for the modeling. Model receptors were located throughout the nonattainment area using a grid with 100 meters spacing between receptors. Receptor elevations and hill heights required by AERMOD were determined using the AERMAP terrain preprocessor version 11103. The meteorological data was processed using AERMET version 15181 and AERMINUTE version 15272. The surface characteristics around the meteorological surface station were determined using AERSURFACE version 13016. An analysis of Good Engineering Practice (GEP) stack heights and building downwash was performed using BPIPPRIME version 04274. The results of the downwash analysis show that the actual stack heights at the Mill Creek facility exceed the GEP heights, so the GEP stack heights for each stack were used in the modeling. EPA proposes to find the model selection and procedures used to run the model appropriate.

2. *Meteorological Data*

The Commonwealth incorporated the most recently available five years of meteorology data from 2011-2015, as measured at a spatially representative National Weather Service airport site. The 1-minute surface-level data came from the Louisville Standiford Field station in Louisville, Kentucky located about 20 kilometers (km) to the northeast of the facility. Twice daily upper-air meteorological information came from the Wilmington Air Park, Wilmington, Ohio station located about 240 km to the northeast. The surface characteristics of the meteorological surface station were processed using AERSURFACE version 13016 following EPA-recommended procedures and were

determined to be representative of the facility by the Commonwealth. EPA proposes to find that the meteorological data selection and processing are appropriate.

3. *Emissions Data*

As previously stated, Mill Creek is the only SO₂ emitting major point source in the nonattainment area and the only emission source explicitly modeled in the attainment modeling analysis for the Jefferson County nonattainment area. All minor area sources and other major point sources (located outside the nonattainment area boundary) were accounted for with the background concentration discussed in Section IV.B.5. Mill Creek operates four coal-fired boiler units (U1 thru U4) that emit from three stacks. Unit 1 and Unit 2 have a joint stack (S33) while Unit 3 and Unit 4 have separate stacks (S4 and S34, respectively). Mill Creek replaced its wet FGD Units on all stacks to improve SO₂ reduction efficiencies. All FGD construction was completed and operational by June 8, 2016.

The Commonwealth evaluated the emissions from Mill Creek and derived a set of three SO₂ critical emission values (CEVs), one for each stack, from AERMOD modeling simulations to show compliance with the 2010 SO₂ NAAQS. The AERMOD modeling analysis resulted in the following CEV's: stack S33, which serves Units 1 and 2, was modeled at 225.4 grams/second (g/s) equivalent to 1,789 lb/hr; stack S4, which serves Unit 3, was modeled at 152.6 g/s equivalent to 1,211 lb/hr; and stack S34, which serves Unit 4, was modeled at 183.6 g/s equivalent to 1,457 lb/hr. In each case, the modeled emission rate corresponds to 0.29 pounds per million British thermal units (lb/MMBtu) times the maximum heat input capacity (MMBtu/hr) of the unit(s) associated with each stack. This form of an emission limit, in lb/MMBtu, is a frequent form of emission limit

associated with electric generating units. The Commonwealth determined from these AERMOD modeling simulations that an hourly emission limit of 0.29 lb/MMBtu would suffice to ensure modeled attainment of the SO₂ NAAQS. However, the Commonwealth opted to apply a 30-day average limit, following EPA's SO₂ nonattainment guidance for setting longer term average limits. The Commonwealth determined that a 30-day average limit of 0.20 lb/MMBtu could be considered comparably stringent to a 1-hour limit of 0.29 lb/MMBtu. Section IV.B.4.ii below, entitled "Longer Term Average Limits," provides more discussion on how the Commonwealth made this determination.

4. *Emission Limits*

An important prerequisite for approval of an attainment plan is that the emission limits that provide for attainment be quantifiable, fully-enforceable, replicable, and accountable. *See* General Preamble at 13567-68. Therefore, part of the review of Kentucky's attainment plan must address the use of these limits, both with respect to the general suitability of using such limits for this purpose and with respect to whether the limits included in the plan have been suitably demonstrated to provide for attainment. The first subsection that follows addresses the enforceability of the limits in the plan, and the second subsection that follows addresses the 30-day average limits.

i. *Enforceability*

Section 172(c)(6) provides that emission limits and other control measures in the attainment SIP shall be enforceable. Kentucky's attainment SIP for the Jefferson County nonattainment area relies on control measures and enforceable emission limits for the four coal-fired boilers at Mill Creek. These emission reduction measures were accounted for in the attainment modeling for Mill Creek, which demonstrates attainment for the

2010 SO₂ NAAQS. Kentucky's control strategy for the Jefferson County nonattainment area consists of replacing FGD control equipment with more efficient FGD controls at Mill Creek, addressing SO₂ emissions for all four units (U1, U2, U3 and U4): Unit 4 new FGD went into service on December 9, 2014; Units 1 and 2 new combined FGD went into service on May 27, 2015; and Unit 3 new FGD went into service on June 8, 2016.

LG&E installed wet FGD replacements at Mill Creek to comply with the MATS Rule.¹⁵ Jefferson County issued a construction permit (No. 34595-12-C) on June 15, 2012, to LG&E authorizing the construction for wet FGD control equipment replacements for the four coal-fired boilers at the Mill Creek facility. This construction permit also included a 0.20 lb/MMBtu limit for SO₂ as a surrogate for the hydrochloric acid gas requirements for MATS. This emission limit was incorporated into the title V permit on July 31, 2014, (145-97-TV (R2)). LG&E was required to comply with the MATS Rule by April 2016.¹⁶ Effective June 8, 2016, the Mill Creek facility completed installation of improved wet FGD SO₂ controls on all three stacks, which has reduced SO₂ emissions by approximately 89 percent since 2014 emission levels.¹⁷

As discussed further in the RACT/RACM section 1V.C below, Kentucky determined that the wet FGD replacements at Mill Creek provide for SO₂ emission

¹⁵ On December 16, 2011, EPA established the MATS Rule to reduce emissions of toxic air pollutants for coal or oil power plants larger than 25 megawatts. The rule establishes alternative numeric emission standards, including SO₂ (as an alternate to hydrochloric acid), individual non-mercury metal air toxics (as an alternate to particulate matter (PM)), and total non-mercury metal air toxics (as an alternate to PM) for certain subcategories of power plants. CAA section 112, MACT regulations for coal-and oil fired EGUs, known as the Mercury and Air Toxics Standards, were targeted at reducing EGU emissions of HAPs (*e.g.*, mercury, hydrochloric acid (HCl), hydrogen fluoride (HF), dioxin, and various metals) and not explicitly targeted at reducing emissions of SO₂. Under the MATS, EGUs meeting specific criteria may choose to demonstrate compliance with alternative SO₂ emission limits in lieu of demonstrating compliance with HCl emission limits.

¹⁶ Mill Creek was required to comply with the MATS Rule by April 16, 2016 (extended compliance date).

¹⁷ Mill Creek annual SO₂ emissions have dropped, from 28,149 tons in 2014 to 3,040 tons in 2017. *See* <https://ampd.epa.gov/ampd/>.

reductions that model attainment for the Jefferson County nonattainment area. With respect to the 1-hour SO₂ standard, Kentucky established an independent emission limit of 0.20 lb/MMBtu, for each coal-fired unit at Mill Creek on a 30-day average basis in accordance with EPA's SO₂ nonattainment guidance for longer term averaging time for the purpose of demonstrating attainment for the 1-hour SO₂ standard (see section IV.B.4.

ii). These emission limits apply independently to each of the four coal-fired units (U1 thru U4), which emit SO₂ from three separate stacks (S33, S4, and S34). Unit 1 and Unit 2 share a common stack (S33) while Unit 3 and Unit 4 have separate stacks (S4 and S34, respectively). These SO₂ limits were established in a revised title V operating permit 145-97-TV(R3) for Mill Creek and became effective on April 5, 2017. Mill Creek demonstrates compliance with the 30-day emission limits through a continuous emission monitoring system on each stack as well as the monitoring of the heat input firing rate of each emission unit. The 30-day SO₂ emission limit was established to demonstrate modeled attainment of the 2010 1-hour SO₂ standard for the Jefferson County nonattainment area and therefore is separate from the SO₂ emission limit of the same numerical value established to comply with the 2012 MATS Rule (*i.e.*, SO₂ as a surrogate for hydrochloric acid). These two limits were independently established through unique methodologies and guidance to address distinct and separate CAA requirements for the LG&E Mill Creek facility. Kentucky requested that EPA incorporate into the Jefferson County portion of the Commonwealth's SIP the 30-day SO₂ emission limits and operating and compliance parameters (monitoring, record keeping and reporting) established at Plant-wide Specific condition S1-Standards, S2-Monitoring and Record

Keeping and S3-Reporting¹⁸ in title V permit 145-97-TV(R3).¹⁹ The accountability of the SO₂ emission limits is established through KDAQ's request to include the limits in the SIP and in the attainment modeling demonstration to ensure permanent and enforceable emission limitations as necessary to provide for attainment of the 2010 SO₂ NAAQS.

ii. Longer Term Average Limits

Kentucky established an emission limit of 0.20 lb/MMBtu of SO₂ emissions, for each individual coal-fired emission unit at Mill Creek, on a 30-day average basis. This emission limit applies individually to each of the four coal-fired units (U1 thru U4), which emit SO₂ from three stacks. Unit 1 and Unit 2 have a joint stack (Stack ID S33) while Unit 3 and Unit 4 each have separate stacks (Stack IDs S4 and S34, respectively). As discussed above in the emissions data section, modeling was performed by Jefferson County and the Commonwealth to determine an appropriate CEV, in g/s, for each of the three stacks (stack S33, which serves Units 1 and 2, was modeled at 225.4 g/s; stack S4, which serves Unit 3, was modeled at 152.6 g/s; and stack S34, which serves Unit 4, was modeled at 183.6 g/s). The corresponding candidate 1-hour emission factor limits (in lb/MMBtu) may be calculated by first converting these g/s CEV values to lb/hr (using a standard unit conversion factor of 1 g/s = 7.937 lb/hr) and then dividing by the maximum

¹⁸ The plant-wide specific conditions S2-Monitoring and Recordkeeping and S3-Reporting reference specific compliance parameters for the 30-day SO₂ emission limit for each individual EGU (U1, U2, U3 and U4). Therefore, the specific SO₂ monitoring and recordkeeping and reporting requirements, for each EGU are located at the Specific Conditions S2-Monitoring and Recordkeeping(b) and S3-Reporting (b) for SO₂.

¹⁹ EPA notes that Kentucky originally requested that EPA incorporate into the Kentucky SIP the per unit SO₂ emission limits for Mill Creek along with compliance parameters that were established in title V permit 145-97-TV(R2). However, through a supplement Louisville has subsequently requested EPA incorporate portions of permit 145-97-TV(R3) which contains the new 0.20 lb/mmBtu per unit emission limit based on a 30-day averaging time.

heat input capacity of each unit, in MMBtu/hr. In each case, the CEV corresponds to an emission factor of 0.29 lb/MMBtu. Since Units 1 and 2 share a stack (S33), the relevant maximum heat input capacity was the combined value for both units (6,170 MMBtu/hr total). Unit 3 has a maximum heat input capacity of 4,204 MMBtu/hr and vents to a single stack (S4), and Unit 4 has a maximum heat input capacity of 5,025 MMBtu/hr and vents to a single stack (S34).

As discussed further below, Kentucky used the procedures in EPA's April 2014 SO₂ nonattainment guidance to determine a compliance ratio (adjustment factor) of 0.69, which when multiplied by 0.29 lbs/MMBTU yields a 30-day average limit of 0.20 lbs/MMBTU. Each of the four emission units were subject to this 0.20 lb/MMBtu 30-day average permit limit effective April 5, 2017. EPA generally defines the term CEV to mean the 1-hour emission rate for an individual stack that, in combination with the other CEVs for other relevant stacks, is shown through proper modeling to yield attainment. As mentioned above, Kentucky developed a set of CEVs (one per stack) in each case corresponding to an hourly limit of 0.29 lb/MMBtu and demonstrated with AERMOD modeling that these CEVs show modeled compliance with the NAAQS. Unit 1 and Unit 2 have a joint stack (S33) and a combined wet FGD control, while Unit 3 and Unit 4 have separate stacks (S4 and S34, respectively), each with individual wet FGD controls.

EPA's SO₂ nonattainment guidance recommends that any longer term average emission limit should be comparably stringent to the 1-hour limit that has been shown to provide for attainment of the 2010 SO₂ standard. The guidance recommends a procedure, detailed in Appendix C, for determining an adjustment factor which may be multiplied times the candidate 1-hour limit to derive a longer term limit that may be estimated to be

comparably stringent to the 1-hour limit. Using this procedure (discussed in section II above) and using hourly emission data provided by EPA's Air Markets Program Data database for Mill Creek for the period 2009-2013 (*i.e.*, before the wet FGD replacements), Kentucky determined an adjustment factor of 0.69. Multiplication of this adjustment factor times the candidate 1-hour limit yielded the 0.20 lb/MMBtu 30-day average permit limit that Kentucky established in Mill Creek's title V permit effective April 5, 2017. The period from 2009 to 2013 was a period of stable operation prior to the wet FGD replacements (which were made between late 2014 to mid-2016), a time when similar but less efficient wet FGDs were used for SO₂ emission control for each coal-fired unit. EPA believes that these data were the best data available at the time to Kentucky for estimating the variability of emissions to be expected at Mill Creek upon compliance with the permit limits. At the time Kentucky conducted its assessment, only a small amount of post-replacement data was available. Use of a mix of pre-replacement and post-replacement data would have yielded a distorted analysis of variability. Therefore, the 2009 to 2013 data from Mill Creek provided the best representation available to Kentucky of the variability of emissions to be expected from this plant.

Additionally, the 2009-2013 emissions data set yielded an adjustment factor slightly lower (more conservative) than the average 30-day adjustment factor (0.71) included in Table 1 of Appendix D of EPA's SO₂ nonattainment guidance for emission sources with wet scrubbers. The results provided in Appendix D were intended to provide insight into the range of adjustment factors that may be considered typical. For these reasons, EPA believes the 0.69 adjustment factor calculated by Kentucky is an

appropriate estimate of the degree of adjustment needed to derive a comparably stringent 30-day average emission limit for this facility.

In accordance with EPA's SO₂ nonattainment guidance, the Commonwealth used the distribution of hourly emissions to determine a corresponding distribution of 30-operating day longer term emission averages at the end of each operating day. The 99th percentile of the 1-hour average emission values and the 4th maximum value of the 30-day average emission values²⁰ for each year were calculated, then the average value of the five years' 99th percentile value was determined. The adjustment factor was calculated as the ratio of the 99th percentile for the longer term average to the 99th percentile hourly average emissions for each of the four boilers at Mill Creek, separately. The adjustment factors for each of the four units (0.64, 0.68, 0.75 and 0.68) were averaged together to arrive at a single compliance ratio of 0.69. The average compliance ratio was then applied to the 0.29 lb/MMBtu hourly emission rate to create a comparably stringent long term (30-day) emission limit of 0.20 lb/MMBtu, which was imposed on each emission unit individually. EPA believes that use of an average adjustment factor is a suitable means of projecting future variability of the four units at the plant because the use of an average adjustment factor is likely to yield similar results to use of unit-specific adjustment factors; indeed, Kentucky determined that annual potential total SO₂ emissions based on use of an average adjustment factor (with a limit of 0.20 lb/MMBtu for all units) are about 137 tpy less than would be allowed with limits of 0.29 lb/MMBtu adjusted by unit-specific adjustment factors.

²⁰ EPA notes that the SO₂ nonattainment guidance recommends the compliance ratio be determined based on the 99th percentile of 30-day values instead of the 4th maximum value used by Kentucky. Kentucky also computed the compliance ratio using the 99th percentile and determined that the individual compliance ratios for each unit did not change because the 99th percentile values are close to the 4th maximum values.

Based on a review of the Commonwealth's submittal and EPA's additional analysis described below, EPA believes that the 30-day average 0.20 lb/MMBtu limit for each of the four boilers at Mill Creek provides a suitable alternative to establishing a 1-hour average emission limit for each unit at this source. The Commonwealth has used a suitable data base and has derived an adjustment factor that yields an emission limit that has comparable stringency to the 1-hour average limit that Kentucky determined would otherwise have been necessary to provide for attainment. While the 30-day rolling average limit allows occasions in which emissions may be higher than the level that would be allowed with the 1-hour limit, the Commonwealth's limit compensates by requiring average emissions to be lower than the level that would otherwise have been required by a 1-hour average limit.

EPA's SO₂ nonattainment guidance recommends evaluating "whether the longer term average limit, potentially in combination with other limits, can be expected to constrain emissions sufficiently so that any occasions of emissions above the critical emission value will be limited in frequency and magnitude and, if they occur, would not be expected to result in NAAQS violations." For this purpose, EPA analyzed Air Markets Program Data available from EPA. Mill Creek completed replacements of the FGD equipment during the period from December 2014 to June 2016. EPA believes that the emissions data available after completion of the replacements are the data that best indicate the likely frequency of hourly emission levels above the critical emission value. At the time EPA conducted its analysis, these data were available through the end of March 2018. Therefore, in addition to the analysis submitted by Kentucky, EPA analyzed hourly emissions obtained from the EPA Air Markets Program Data for Mill

Creek for the period April 2016 to March 2018,²¹ which encompasses the time after all the wet FGD replacements were completed and the facility was operating under a 0.20 lb/MMBtu emission limitation. During this time Units 1, 2 and 3 did not have any 30-day average values above 0.20 lb/MMBtu, these units each had only 0.1 percent of the hours exceeding the “critical emission factor” of 0.29 lb/MMBtu. Although Unit 4 slightly exceeded 0.20 lb/MMBtu approximately 5.4 percent of the 30-day averages during this period (based on Kentucky’s compliance determination procedures), this unit only exceeded the “critical emission factor” of 0.29 lb/MMBtu for 0.5 percent of the hours. Therefore, EPA is proposing to conclude that Mill Creek can reasonably be expected to exceed the critical emission value only rarely. For details of this analysis, please refer to the spreadsheet titled “Mill Creek Analysis of Values Above the Critical Emission Rate” in the Docket for this proposal action.

For reasons described above and explained in more detail in EPA’s SO₂ nonattainment guidance, EPA believes appropriately set longer term average limits provide a reasonable basis by which nonattainment plans may provide for attainment. Based on its review of this information as well as the information in the Commonwealth’s plan, EPA proposes to find that the 30-day average limits for Mill Creek provide for attainment of the SO₂ standard. Furthermore, EPA notes that 2015-2017 quality-assured and certified design value for the Watson Lane monitor (AQS ID: AQS ID: 21-11-0051) in the nonattainment area is 31 ppb, which is below the 1-hour SO₂ standard.

²¹ FGD replacements were not complete for Unit 3 until June 2016, so the period analyzed for Unit 3 was from July 2016 to March 2018.

The Commonwealth requested EPA approve into the Jefferson County portion of the Kentucky SIP, the 30-day, 0.20 lb/MMBtu SO₂ emission limit for each boiler as well as operating and compliance parameters (monitoring and reporting requirements) established in Mill Creek's title V permit 145-97-TV (R3). EPA has evaluated these emissions limits and proposes to determine that these limits provide for attainment of the 2010 SO₂ NAAQS.

5. *Background Concentration*

Background concentrations of SO₂ were included in the modeling using 2013-2015 season-by-hour monitoring data from the Green Valley Road monitor (AQS ID: 18-043-1004) located in New Albany, Indiana. Use of the season-by-hour data is one of the approaches for calculating background concentrations provided in the SO₂ nonattainment guidance. The season-by-hour background values ranged from 2.13 ppb to 20.67 ppb. This monitor is located approximately 29 km to the north of the Mill Creek facility in the vicinity of many SO₂ emissions sources, including the Duke Energy Indiana, LLC, Gallagher Generating Station coal-fired power plant with 3,500 tpy of SO₂ emissions in 2014, which is located approximately 5 km upwind of the monitor. This source, along with other sources in the area upwind of the monitor (including numerous small area sources in the City of Louisville and the Louisville Gas and Electric Company, Cane Run Station power plant), emitted approximately 13,000 tpy of SO₂ in 2014. The background concentrations from the Green Valley ambient air monitor were used by the Commonwealth to account for SO₂ impacts from all sources besides the Mill Creek facility, which was explicitly modeled with AERMOD to develop an appropriate emissions limit. The Commonwealth evaluated other SO₂ monitors in the Louisville area

that are closer to the Mill Creek facility and the nonattainment area, including the Watson Lane (AQS ID: 21-111-0051), Cannons Lane (AQS ID: 21-111-0067) and Algonquin Parkway/Firearms Training (AQS ID: 21-111-1041) monitors. However, the Commonwealth determined that each of these monitors had issues with data completeness during the 2013-2015 timeframe and thus were not available for use in their modeling analysis.

EPA is supplementing the attainment demonstration modeling provided by the Commonwealth with an independent analysis to assess the conclusion that the Green Valley background monitor adequately represents background concentrations of SO₂ within this nonattainment area, including the impact from Kosmos that is located outside but adjacent to the nonattainment area to the southeast of the Mill Creek facility. The Commonwealth states in its submission that the Green Valley monitor was determined to be the most appropriate and representative background monitor for the demonstration and that it accounts for impacts from all sources not explicitly modeled, including Kosmos. As described below, EPA's independent analysis supports KDAQ's conclusion that the Green Valley monitor adequately represents impacts from all unmodeled sources including those from Kosmos.

EPA evaluated whether Kosmos, which is located in close proximity to the nonattainment area boundary (less than 0.50 km), should be considered a "nearby source" or an "other source" as these terms are defined in Section 8.3.1 of EPA's *Guideline* contained in 40 CFR Part 51, Appendix W (Appendix W).²² Section 8.3.1.a.i of

²² EPA had previously indicated that Kosmos should be treated as a "nearby source." This position was communicated to the Commonwealth in comments on the Prehearing Attainment Demonstration SIP in a letter dated April 18, 2017. EPA has subsequently performed additional analysis (discussed later in this

Appendix W discusses evaluating significant concentration gradient in the vicinity of the source under consideration for SIP emissions limits for determining if other sources in the area are adequately represented by background ambient monitoring. Section 8.3.3.b.ii of Appendix W further describes the assessment of concentration gradients and states that “the magnitude of a concentration gradient will be greatest in the proximity of the source and will generally not be significant at distances greater than 10 times the height of the stack(s) at that source without consideration of terrain influences.” The height of the cement kiln stack at Kosmos is 75 feet (approximately 23 meters) and there are no significant terrain features located near Kosmos or within the nonattainment area boundary. Evaluating the concentration gradients for Kosmos using the “10 times stack height” general rule of thumb indicates that concentration gradients should be comparatively modest beyond 230 meters from the stack. The closest edge of the nonattainment boundary is approximately 480 meters from the stack, which is more than twice the distance of this general rule of thumb. Therefore, EPA believes that the SO₂ emissions from Kosmos likely would not result in a significant concentration gradient within the nonattainment area boundary.

EPA also evaluated whether the Green Valley background monitor data is adequately representative of potential SO₂ concentration impacts from Kosmos within the

section), and believes that it is appropriate to treat Kosmos as an “other source,” which can be addressed using a representative ambient background concentration. As an additional measure, Kentucky and Jefferson County have elected to conduct air quality monitoring to better characterize the ambient concentrations of SO₂ in the vicinity of the Kosmos facility through an agreed Board Order with Kosmos. The Board Order, approved by Jefferson County Board on April 19, 2017, requires the facility to deploy an ambient air monitor in accordance with 40 CFR part 58 and EPA’s nonattainment guidance “SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document” (Monitoring TAD February 2016) and includes a remediation plan indicating if monitored violations of the NAAQS occur, Kosmos agrees to make changes to their operations to prevent future violations. EPA Region 4 approved the monitor location in a letter dated February 1, 2018. Please see the Board Order located in the Docket for this proposed rule at EPA-R04-OAR-2017-0625.

nonattainment area. This evaluation consisted of an assessment of wind patterns in the Louisville area, the SO₂ emissions sources in the vicinity of the Green Valley monitor, and comparing those sources to the Kosmos source. EPA evaluated wind data from 2011-2015 from the Louisville Standiford Field Airport to determine the predominant wind patterns. The results of this analysis show that winds blow predominately from the southeast, south and southwest directions. EPA then identified significant SO₂ emissions sources located south, southeast and southwest of the Green Valley monitor. The Commonwealth used Green Valley ambient concentration data from the 2013-2015 time period for the background concentrations. Therefore, EPA used SO₂ emissions data contained in the 2014 NEI to evaluate sources in the vicinity of the Green Valley monitor. EPA's evaluation of sources in the 2014 NEI found that a large coal fired power plant, the Duke Energy Indiana, LLC, Gallagher Generating Station, with SO₂ emissions of 3,500 tpy, is located approximately 5 km southwest of the Green Valley monitor. Also, the Louisville Gas and Electric Company, Cane Run Station reported 8,700 tpy of SO₂ emissions in 2014 and is located approximately 15 km southwest of the Green Valley monitor. Further, the City of Louisville and its associated numerous small area SO₂ emissions sources (*e.g.*, diesel vehicles and generators) is located within 9 km southeast of the monitor. Combined, these sources total over 13,000 tpy of SO₂ emissions (according to the 2014 NEI) located upwind of the monitor and contribute to the measured SO₂ season-by-hour concentrations in 2013-2015 that ranged from 2.13 ppb to 20.67 ppb.

EPA used its Emissions Inventory System (EIS) Gateway to obtain emissions data for Kosmos for comparison to the emissions sources impacting the Green Valley monitor.

The EIS Gateway data for Kosmos show SO₂ emissions of 207 tpy in 2014, 289 tpy in 2015, and 364 tpy in 2016. These emissions data demonstrate that Kosmos' SO₂ emissions are much less than the emissions sources that are contributing to the measured concentrations at the Green Valley background monitor. While Kosmos is located much closer to the nonattainment area boundary (approximately 0.5 km) than the distance the larger sources of emissions are from the Green Valley monitor (from 5 km to 15 km), the sources near the Green Valley monitor have more than an order of magnitude more emissions than Kosmos. EPA believes that the net effect of these compensating differences is that the Green Valley monitor reasonably indicates the impact of Kosmos on the nonattainment area.

Based upon EPA's analyses summarized above, EPA is proposing to concur with the Commonwealth's use of ambient SO₂ concentration data from the Green Valley monitor to account for potential impacts from Kosmos and all other emissions sources located outside the nonattainment area that were not explicitly modeled in the attainment demonstration modeling analysis.

6. *Summary of Modeling Results*

The AERMOD modeling resulted in a maximum modeled design value of 190.1 micrograms per cubic meter or 72.6 ppb, including the background concentration, which is below the 1-hour SO₂ NAAQS of 75 ppb. As discussed above, the AERMOD modeling used hourly SO₂ emissions for each stack equivalent to the hourly SO₂ emission rate of 0.29 lb/MMBtu, which was used to derive the 30-day average emission limit for the four coal-fired boilers at the Mill Creek facility. Effective June 8, 2016, the Mill Creek facility completed installation of improved wet FGD SO₂ controls on all three

stacks, and became subject the new 30-day SO₂ emission limits on April 5, 2017, which has reduced SO₂ emissions by approximately 89 percent from 2014 emission levels.²³ Furthermore, the Watson Lane monitoring data trends during the timeframe corroborate the significant SO₂ reductions from Mill Creek facility, supporting EPA's view that limiting Mill Creek emissions adequately will assure attainment. EPA has evaluated the modeling procedures, inputs and results and proposes to find that the results of the Commonwealth's modeling analysis demonstrate that the limits on Mill Creek assure that there will be no violations of the NAAQS within the nonattainment area.

C. RACM/RACT

CAA section 172(c)(1) requires that each attainment plan provide for the implementation of all RACM as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of RACT) and shall provide for attainment of the NAAQS. Additionally, 172(c)(6) require SIPs to contain enforceable emissions limitations and other control measures to "provide for attainment" of the NAAQS. EPA interprets RACM, including RACT, under section 172, as measures that a state determines to be reasonably available and which contribute to attainment as expeditiously as practicable for existing sources in the area.

Kentucky's plan for attaining the 1-hour SO₂ NAAQS in the Jefferson County SO₂ nonattainment area included a review of three control measures as potential options which could be implemented at Mill Creek to reduce ambient SO₂ concentrations and

²³ Mill Creek annual SO₂ emissions have dropped, from 28,149 tons in 2014 to 3,040 tons in 2017. See <https://ampd.epa.gov/ampd/>.

attain the SO₂ NAAQS: more efficient scrubber operation; increased stack height; and restriction of high sulfur fuels. The Commonwealth in coordination with the District determined that FGD is the appropriate control strategy and represents RACT/RACM for the nonattainment area. The new controls increase Mill Creek's ability to control SO₂ emissions from previously permitted levels, *i.e.*, around 90 percent, to a 98 percent removal rate. Emissions are expected to be reduced from actual emissions of 29,994 tpy in 2011 to a projected post-control level of 13,489.5 tpy. Effective June 8, 2016, the Mill Creek facility completed installation of improved wet FGD SO₂ controls on all three stacks, and became subject the new 30-day SO₂ emission limits on April 5, 2017 (discussed in section IV.B.4 above). The replaced FGD controls and April 5, 2017 compliance with the 30-day SO₂ emission limits has resulted in reduced SO₂ emissions at Mill Creek by approximately 89 percent since 2014 emission levels.²⁴ Furthermore, the monitoring data trends during the time period corroborate the existence of the substantial air quality benefits from the significant SO₂ reductions from Mill Creek facility. The Watson Lane monitor has recorded decreasing SO₂ concentrations from an annual 99th percentile value of 148.6 ppb in 2014, 54.2 ppb in 2015, 26.1 ppb in 2016 and 13.7 ppb in 2017. Currently, the quality-assured and certified 2015-2017, 3-year design value for the Watson Lane monitor is 31 ppb, which is well below the 1-hour SO₂ standard. In addition to the modeling demonstrating attainment of the SO₂ standard, actual monitored 99th percentile of 1-hour daily maximum concentrations at the Watson Lane do not show violations of the NAAQS. On this basis, Jefferson County determined that no additional

²⁴ According to the CAMD data, Mill Creek annual SO₂ emissions have dropped, from 28,149 tons in 2014 to 3,040 tons in 2017. See <https://ampd.epa.gov/ampd/>.

measures could contribute to attainment as expeditiously as practicable. Therefore, the FGD controls for the Mill Creek Generating Station was determined to constitute RACT/RACM for the nonattainment area. Kentucky has determined that these measures suffice to provide for timely attainment. EPA preliminarily concurs with Kentucky's approach and analysis, and proposes to conclude that the Commonwealth has satisfied the requirement in section 172(c)(1) and (6) to adopt and submit all RACT/RACM and emission limitations and control measures as needed to attain the standard as expeditiously as practicable.

D. New Source Review (NSR)

EPA last approved Louisville's NNSR regulations 2.04 - *Construction or Modification of Major Sources in or Impacting upon Non-Attainment Areas (Emissions Offset Requirements)* on October 23, 2001 (66 FR 53660). These rules provide for appropriate NSR for SO₂ sources undergoing construction or major modification in any nonattainment area in Jefferson County including the SO₂ nonattainment area without need for modification of the approved rules. Therefore, EPA proposes to conclude that this requirement is met for this Area through Louisville's existing NSR rules.

E. Reasonable Further Progress (RFP)

CAA section 172(c)(2) requires attainment plan to require RFP, which is defined in CAA section 171(1) as "annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the SO₂ NAAQS by the statutory attainment date." For pollutants like SO₂ where a limited number of sources affect air quality, the General Preamble and the SO₂ nonattainment guidance explain that RFP is best construed

as an ambitious compliance schedule. As discussed above, LG&E completed installation of FGD replacement scrubbers for all four coal-fired boilers at Mill Creek on June 8, 2016 (Unit 4 new FGD went into service on December 9, 2014; Units 1 and 2's new FGD went into service on May 27, 2015; and Unit 3²⁵ new FGD went into service on June 8, 2016) to comply with EPA's MATS extended compliance date of April 16, 2016. However, for purposes of demonstrating attainment of the 2010 SO₂ standard, Kentucky established an independent SO₂ emission limit of 0.20 lb/MMBtu for Mill Creek (title V operating permit 145-97-TV(R3) based on the SO₂ emission reductions from the FGD replacement. All FGD controls are currently installed and operational at Mill Creek and the facility is currently complying with the 30-day emission limits as of April 5, 2017 (the date the revised title V permit was issued).²⁶ EPA has evaluated these emissions limits and proposes to determine that these limits provide for modeled attainment of the 2010 SO₂ NAAQS in the Jefferson County nonattainment area.

SO₂ emissions within the nonattainment area have decreased approximately 89 percent since 2014, which correlates to a reduction of SO₂ concentrations recorded at the Watson Lane monitor during this period.²⁷ Kentucky finds that this plan requires the affected sources implement appropriate control measures as expeditiously as practicable to ensure attainment of the standard by the applicable attainment date. Mill Creek has

²⁵ Unit 3 ceased operation on April 9, 2016, to comply with the extended MATS compliance date and did not return to service until all controls and construction necessary to comply with MATS were completed.

²⁶ See Mill Creek Generating Station title V operating permit No. 145-97-TV(R3) in the Docket (ID: EPA-R04-OAR-2017-0625) for this proposal action.

²⁷ According to CAMD data, annual SO₂ emissions have dropped, from 28,149 tons in 2014 to 14,082 tons in 2015. Subsequent years have reported further reductions with 4,335 tons in 2016 and 3,040 tons in 2017. The Watson Lane monitor (AQS ID: 21-111-0051), located less than 2 km east of the Mill Creek facility, recorded decreasing SO₂ concentrations from an annual 99th percentile value of 148.6 ppb in 2014, 54.2 ppb in 2015, 26.1 ppb in 2016 and 13.7 ppb in 2017.

met the limits in Kentucky's plan by the April 5, 2017 compliance date (effective date of the new 30-day SO₂ emission limits). Therefore, Kentucky concludes that this plan provides for RFP in accordance with EPA's April 2014 SO₂ nonattainment guidance. Currently, the Watson Lane monitor 2015-2017 quality-assured and certified SO₂ design value is below the 1-hour NAAQS at 31 ppb, EPA expects the Area to show attainment of the 2010 standard by the statutory attainment date. EPA proposes to concur and concludes that the plan provides for RFP, as specified in the General Preamble and the SO₂ nonattainment guidance, and therefore satisfies the requirements of CAA section 172(c)(2).

F. Contingency Measures

As noted above, EPA's SO₂ nonattainment guidance describes special features of SO₂ planning that influence the suitability of alternative means of addressing the requirement in section 172(c)(9) for contingency measures for SO₂, such that an appropriate means of satisfying this requirement is for the Commonwealth to have a comprehensive enforcement program that identifies sources of violations of the SO₂ NAAQS and to undertake an aggressive follow-up for compliance and enforcement. Kentucky's plan provides for satisfying the contingency measure requirement in this manner. Jefferson County is authorized by Kentucky Revised Statutes Chapter 77 to ensure that control strategies, including reasonably achievable control technology and contingency measures, necessary to attain the standard by the applicable attainment date are implemented in the nonattainment area. Kentucky's proposed SIP revision has been developed in accordance with this authority. In addition, if a monitored exceedance of the SO₂ NAAQS occurs in the future and all sources are found to comply with applicable

SIP and permit emission limits, Jefferson County will perform the necessary analysis to determine the cause of the exceedance, and determine what additional control measures are necessary to impose on the Area's stationary sources to continue to maintain attainment of the SO₂ NAAQS. Jefferson County will inform any affected stationary sources of SO₂ of the potential need for additional control measures. If there is a violation of the NAAQS for SO₂ within the nonattainment area, then Jefferson County will notify the stationary source that the potential exists for a NAAQS violation. Within six months of notification, the source must submit a detailed plan of action specifying additional control measures to be implemented no later than 18 months after the notification. The additional control measures will be submitted to the EPA for approval and incorporation into the SIP. EPA preliminarily concurs and proposes to approve Kentucky's plan for meeting the contingency measure requirement as described above and in the proposed SIP revision.

V. Incorporation by Reference

In this rule, EPA is proposing to include in a final EPA rule regulatory text that includes incorporation by reference. In accordance with requirements of 1 CFR 51.5, EPA is proposing to incorporate by reference into the Jefferson County portion of the Kentucky SIP, a SO₂ emission limit and specified compliance conditions established in title V permit 145-97-TV(R3) for each coal-fired emissions unit at the LG&E Mill Creek Generating station in Jefferson County nonattainment area. Specifically, EPA is proposing to incorporate into the Jefferson County portion of the Kentucky SIP a 0.20 lb/MMBtu 30-day SO₂ emission limit for each EGU (U1, U2, U3 and U4) and operating and compliance conditions (monitoring, recordkeeping and reporting) all established at

Plant-wide Specific condition S1-Standards, S2-Monitoring and Record Keeping and S3-Reporting in title V permit 145-97-TV(R3) for EGU U1, U2, U3 and U4. The SO₂ emission standards specified in the permit are the basis for the attainment demonstration. EPA has made, and will continue to make, these materials generally available through www.regulations.gov and at EPA Region 4 office (please contact the person identified in the “For Further Information Contact” section of this preamble for more information).

VI. EPA’s Proposed Action

EPA is proposing to approve Kentucky’s SO₂ nonattainment SIP submission, which the Commonwealth submitted to EPA on June 23, 2017, for attaining the 2010 1-hour SO₂ NAAQS for the Jefferson County nonattainment area and for meeting other nonattainment area planning requirements. EPA has preliminarily determined that the nonattainment SIP meets the applicable requirements of sections 110, 172, 191 and 192 of the CAA and nonattainment regulatory requirements at 40 CFR part 51. This SO₂ nonattainment plan includes Kentucky’s attainment demonstration for the Jefferson County nonattainment area and other nonattainment requirements for RFP, RACT/RACM, NNSR, base-year and projection-year emission inventories, enforceable emission limits and control measures and compliance parameters, and contingency measures. Additionally, EPA is proposing to approve into the Jefferson County portion of the Kentucky SIP, Mill Creek’s enforceable SO₂ emission limits and compliance parameters (monitoring and reporting) established at Plant-wide Specific condition S1-Standards, S2-Monitoring and Record Keeping and S3-Reporting established in title V permit 145-97-TV(R3).

VII. Statutory and Executive Orders

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable Federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. This action merely proposes to approve state law as meeting Federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- Is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Is not an Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory action because SIP approvals are exempted under Executive Order 12866;
- Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);

- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

The SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by Reference,
Intergovernmental relations, Reporting and recordkeeping requirements, Sulfur oxides.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: November 1, 2018.

Onis “Trey” Glenn, III

Regional Administrator,

Region 4.

[FR Doc. 2018-24582 Filed: 11/8/2018 8:45 am; Publication Date: 11/9/2018]